

Permit No. NM0020389

**PROPOSED
PERMIT**

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended,
(33 U.S.C... 1251 et. seq; the "Act"),

Homestake Mining Company
P.O. Box 98
Grants, New Mexico 87020

is authorized to discharge from a facility located at Homestake Mining
Company, McKinley County, New Mexico

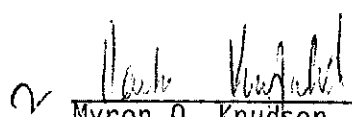
to receiving waters named Arroyo del Puerto to San Mateo Creek in the
Rio Grande Basin

in accordance with effluent limitations, monitoring requirements and
other conditions set forth in Parts I (5 pages), II (7 pages), and
III (6 pages) hereof.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Signed and issued this day of


Myron O. Knudson, P.E.

Director

Water Management Division (6W)

PART I
REQUIREMENTS FOR NPDES PERMITS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL 001

During the period beginning the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall 001 - mine water.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	<u>Mass(lbs/day)</u>		<u>Other Units (Specify)</u>	
	<u>Daily Avg</u>	<u>Daily Max</u>	<u>Daily Avg</u>	<u>Daily Max</u>
Flow (MGD)	N/A	N/A	(*1)	(*1)
Total Suspended Solids	N/A	N/A	20 mg/l	30 mg/l
Chemical Oxygen Demand	N/A	N/A	100 mg/l	200 mg/l (*2)
Radium 226 (dissolved)	N/A	N/A	3 pCi/l	10 pCi/l
Total Radium 226	N/A	N/A	10 pCi/l	30 pCi/l
Total Uranium	N/A	N/A	2.0 mg/l	4.0 mg/l
Total Zinc	N/A	N/A	0.5 mg/l	1.0 mg/l
Biomonitoring	N/A	N/A	N/A	N/A

<u>Effluent Characteristic</u>	<u>Monitoring Requirements</u>	
	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow (MGD)	Continuous	Record
Total Suspended Solids	1/week	24-hr. composite
Chemical Oxygen Demand	1/week	24-hr. composite
Radium 226 (dissolved)	1/week	24-hr. composite
Total Radium 226	1/week	24-hr. composite
Total Uranium	1/week	24-hr. composite
Total Zinc	1/week	24-hr. composite
Biomonitoring	1/month	(*3)

OUTFALL 001

The pH shall not be less than 6.6 standard units nor greater than 8.6 standard units and shall be monitored 1/week by grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At the discharge pipe from the ion exchange plant.

Latitude: 35° 39' 20"

Longitude: 108° 30' 28"

FOOTNOTES

(*1) Report.

(*2) See Part II, Paragraph C.

(*3) See Part II, Paragraph E.

SECTION B. SCHEDULE OF COMPLIANCE

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

NONE

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

SECTION C. REPORTING OF MONITORING RESULTS

Monitoring results shall be reported in accordance with the provisions of Part III.D.4 of the permit. Monitoring results obtained during the previous month shall be summarized and reported on a Discharge Monitoring Report form postmarked no later than the _____ day of the month following the completed reporting period. The first report is due on _____.

PART II
OTHER CONDITIONS

A. The term "24-hour composite sample" except for volatile organics means a sample consisting of a minimum of eight (8) grab samples of effluents collected at regular intervals over a normal operation day and combined proportional to flow, or a sample continuously collected proportional to flow over a normal operating day.

B. Test Procedures

a. The effluent characteristics "soluble radium 226" and "total radium 226" shall be measured by Method 706 "Radium 226 in Water" in accordance with the procedures discussed for soluble radium 226 and total radium 226 in Standard Methods for the Examination of Water and Wastewater, 14th Edition, 1975, page 667, or an equivalent method.

b. The effluent characteristic "total uranium" shall be measured by the procedure discussed in the HASL Procedural Manual, edition by John H. Harley, HASL 300 Health and Safety Laboratory, U.S. Atomic Energy Commission, 1973, page EU-03, or an equivalent method.

C. The following limitations shall apply

Part 2, of New Mexico Water Quality Control Commission Regulations, September 20, 1982, Section 2-101, General Requirements: number 2 in subsection A which reads more than one daily composite sample in any thirty-day period (in which less than (10) daily composite samples are examined)" the Chemical Oxygen Demand (COD) shall be less than 125 mg/l.

D. The following limitations shall apply

Part 2, of New Mexico Water Quality Control Commission Regulations, September 20, 1982, Section 2-101, General Requirements: number 2 in subsection A which reads "more than one daily composite sample in any thirty-day period (in which less than ten (10) daily composite samples are examined)" the Bio-Chemical Oxygen Demand (BOD) shall be less than 30 mg/l.

E. CHRONIC BIOMONITORING REQUIREMENTS

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section. Such testing will determine if an appropriately dilute effluent sample affects the survival and reproduction

or growth of the appropriate test organism. The permittee shall initiate the following series of tests within 60 days after recommencing discharge to evaluate wastewater toxicity. All test organisms, procedures, and water quality assurance criterion used shall be in accordance with the latest revision of "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", EPA/600/4-85/014. The following tests shall be used:

- 1) The permittee shall conduct a 7-day Ceriodaphnia dubia survival and reproduction test (Method 1002.0).
- 2) The permittee shall conduct a 7-day fathead minnow (Pimephales promelas) larval survival and growth test (Method 1000.0).

b. A minimum of 5 dilutions must be performed in addition to an appropriate control, using a minimum dilution factor of 0.3 (i.e., 100%, 30%, 10%, 3%, and 1%).

c. The samples shall be collected at a point following the last treatment unit. Dilution water used in toxicity tests will be receiving stream water collected at a point upstream of the discharge. If receiving water is unsatisfactory as a result of pre-existing in-stream toxicity (greater than 20% mortality in the control), the permittee must substitute reconstituted dilution water, with hardness and alkalinity similar to that of the receiving stream water. The permittee shall also report to EPA the toxicity of the upstream receiving water.

d. Flow-weighted 24-hour composite samples representative of dry weather flows during normal operation will be collected from Outfall 001. These composites shall be combined in proportion to the average flow from each outfall for the day the sample was collected. The toxicity tests shall be performed on the flow-weighted composite of the outfall samples.

e. The toxicity tests specified in paragraphs (a) and (b) above shall be conducted once per month. The permittee shall prepare a full report of the results according to EPA/600/4-85/014, Section 10, Report Preparation. This full report need not be submitted unless requested and shall be retained following the provisions of Part III.C.3 of this permit.

f. The permittee shall submit the toxicity testing information contained in Table 1 of this permit to EPA along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting period following the toxicity test.

g. Should no toxicity occur within the first year of toxicity testing, in accordance with Paragraph (h) below, for both species tested at the effluent dilution equivalent to low flow (100%), the permittee shall certify this information in writing to EPA Region VI and these biomonitoring requirements shall expire.

h. For the purpose of this biomonitoring requirement, chronic toxicity is defined as a statistically significant difference at the 95% confidence level between the survival and growth or reproduction in the appropriate test organism exposed to the control and to an effluent dilution.

i. This permit shall be reopened to require further monitoring studies and/or effluent limits if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream. Modification or revocation of the permit is subject to the provisions of 40 CFR Part 122.62. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

TABLE 1

BIOMONITORING REPORTING

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

Permittee: Homestake Mining Company
NPDES No.: NM0020389

Composite collected FROM: _____ am/pm _____ date
TO: _____ am/pm _____ date

Test initiated: _____ am/pm _____ date

Dilution water used: ☐ Receiving water ☐ Reconstituted water

NUMBER OF YOUNG PRODUCED PER FEMALE @ 7 DAYS

Percent effluent (%)

REP	0%	1%	3%	10%	30%	% at low flow 100%
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						

TABLE 1 (Continued)

BIOMONITORING REPORTING

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

Permittee: Homestake Mining Company
NPDES No.: NM0020389

PERCENT SURVIVAL

Percent effluent (%)

Time of Reading	0%	1%	3%	10%	30%	% at low flow 100%
24h						
48h						
7-day						

1. Fisher's Exact Test:

Is the mean survival at 7 days significantly different ($p=0.05$) than the control survival for the % effluent corresponding to:

LOW FLOW: _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate:

Is the mean number of young produced per female significantly different ($p=0.05$) than the control's number of young per female for the % effluent corresponding to:

LOW FLOW: _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEL below and circle lowest number:

- a. NOEL survival = _____ % effluent
b. NOEL reproduction = _____ % effluent

4. If you answered NO to 1 and 2, enter [N]; otherwise enter [Y]: _____

5. Enter response to item 4 on DMR Form, Parameter No. TCP3B.

TABLE 1 (Continued)

BIOMONITORING REPORTING

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL TEST
(Pimephales promelas)

Permittee: Homestake Mining Company
 NPDES No.: NM0020389

Composite collected FROM: _____ am/pm _____ date
 TO: _____ am/pm _____ date

Test initiated: _____ am/pm _____ date

Dilution water used: ☐ Receiving water ☐ Reconstituted water

DATA TABLE FOR GROWTH OF FATHEAD MINNOWS

Effluent Conc. (%)	Average Dry Weight in milligrams in replicate chambers				MEAN DRY WEIGHT	
	A	B	C	D	mg	CV%*
0%						
1%						
3%						
10%						
30%						
Low Flow 100%						

* coefficient of variation = standard deviation x 100/mean

1. Dunnett's Procedure:

Is the mean dry weight (growth) at 7 days effluent significantly different ($p=0.05$) than the control's dry weight (growth) for the % effluent corresponding to:

LOW FLOW: _____ YES _____ NO

TABLE 1 (Continued)
BIOMONITORING REPORTING

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL TEST
(Pimephales promelas)

Permittee: Homestake Mining Company
NPDES No.: NM0020389

DATA TABLE FOR FATHEAD MINNOW SURVIVAL

Effluent Conc. (%)	Percent Survival in replicate chambers				MEAN PERCENT SURVIVAL			CV%*
	A	B	C	D	24h	48h	7-day	
0%								
1%								
3%								
10%								
30%								
Low Flow 100%								

* coefficient of variation = standard deviation x 100/mean

2. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate:

Is the mean survival at 7 days significantly different ($p=0.05$) than the control survival for the % effluent corresponding to:

LOW FLOW: _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEL below and circle lowest number:

a. NOEL survival = _____ % effluent
b. NOEL growth = _____ % effluent

4. If you answered NO to 1 and 2, enter [N]; otherwise enter [Y]: _____

5. Enter response to item 4 on DMR Form, Parameter No. TCP6C.